

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 11 (Cancelled).

12. (Currently Amended) A method for determining and/or monitoring the volume flow rate of a medium flowing in a containment, comprising the steps of:

measuring signals are emitted from an ultrasonic transducer placed in a first position on the containment;

receiving the measuring signals by an ultrasonic transducer placed in a second position on the containment;

providing information on the basis of the measuring signals, or on the basis of measuring data obtained from the measuring signals, concerning the volume flow rate of the medium located in the containment;

comparing the currently measured, actual measuring signals, or the corresponding actual measuring data with corresponding, stored, set measuring signals, or set measuring data; and

issuing a report, when a deviation arises between the set measuring signals, or set measuring data, and the actual measuring signals, or actual measuring data,
wherein:

on the basis of the deviation, it is recognized

whether the containment is not filled with the medium, and/or

whether the coupling of the ultrasonic transducers to the containment is defective, and/or

whether the damping of the measuring signals by the medium located in the containment exceeds a predetermined maximum value, and/or

whether an air gap between the containment and a liner on the inner surface of the containment is present, and/or

whether the damping of the measuring signals in the wall of the containment exceeds a maximum, predetermined amount.

13. (Previously presented) The method as claimed in claim 12, further comprising the step of:

deriving signatures from the actual measuring signals, or actual measuring data, and from the set measuring signals, or set measuring data, wherein the signatures describe each of the measuring signals sufficiently accurately.

14. (Previously presented) The method as claimed in claim 12, wherein:
the set measuring signals are determined for not-filled containment and/or for filled containment.

15. (Previously presented) The method as claimed in claim 12, further comprising the steps of:

digitizing and storing the actual measuring signals, or set measuring signals, and/or the corresponding signatures;

comparing the actual measuring signals/actual measuring data, or the signature determined from the actual measuring signals/actual measuring data, with the corresponding set measuring signals/set measuring data or the corresponding signature of the set measuring signals/measuring data; and

issuing a report, when a deviation arises between the actual and set measuring signals/measuring data, or between the actual and set signatures, which lies outside of a predetermined tolerance value.

16. (Previously presented) The method as claimed in claim 15, further comprising the step of:

making a statement on the basis of the comparison of the actual measuring signals/actual measuring data, or on the basis of the comparison of the signatures of the actual measuring signals/actual measuring data, with the set measuring signals/set measuring data, or the corresponding signatures of the set measuring signals/set measuring data, as to which defective system and/or process variable is causing the deviation.

17. (Cancelled).

18. (Currently Amended) A device for determining and/or monitoring the volume flow rate of a medium in a containment, comprising:

at least two ultrasonic transducers, wherein a first ultrasonic transducer is provided in a first position on the containment and wherein a second ultrasonic transducer is provided in a second position on the containment; and

a control/evaluation unit, which determines the volume flow rate of the medium located in the containment on the basis of measuring signals delivered by said ultrasonic transducers, or on the basis of the corresponding measuring data, wherein:

said control/evaluation unit compares the currently measured, actual measuring signals, or the corresponding actual measuring data, with corresponding, stored set measuring signals, or set measuring data, and outputs a deviation between the set measuring signals, or set measuring data, and the actual measuring signals, or actual measuring data, wherein:

on the basis of the deviation, it is recognized

that the containment is not filled with the medium, and/or

that the coupling of the ultrasonic transducers to the containment is defective, and/or

that the damping of the measuring signals by the medium located in the containment exceeds a predetermined maximum value, and/or

that an air gap between the containment and a liner on the inner surface of the containment is present, and/or

that the damping of the measuring signals in the wall of the containment exceeds a maximum, predetermined amount.

19. (Previously presented) The device as claimed in claim 18, wherein:

said control/evaluation unit provides information concerning which defective system, and/or process, variable is causing the deviation.

20. (Previously presented) Device as claimed in claim 18, wherein:

the arrangement of said ultrasonic transducers is a one-transverse arrangement or a multi-traverse arrangement.

21. (Previously presented) Device as claimed in claim 18, wherein:
said at least two ultrasonic transducers having the greatest separation from
one another work alternatingly in emitting and receiving operation.

22. (Previously presented) Device as claimed in claim 18, wherein:
said at least two ultrasonic transducers are mounted on the containment
according to the clamp-on method.